REMARKS/ARGUMENTS

The present Request for Reconsideration is submitted in response to the final Office Action dated November 16, 2004, which set a three-month period for response, making a reply due by February 16, 2005.

Claims 14-25 are pending in this application.

In the final Office Action, claims 14-17 and 20-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,604,329 to Reber ("Reber '329") in view of U.S. Patent No. 5,882,786 to Nassau. Claims 18-19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Reber '329 in view of Nassau, and further in view of U.S. Patent No. 5,423,714 to Lach. Claim 24 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Reber '329 in view of Nassau, and further in view of U.S. Patent No. 5,587,233 to Konig. Claim 25 was rejected under 35 U.S.C. 103(a) as being unpatentable over Reber '329 in view of Nassau.

The Applicants respectfully disagree that the cited reference combinations render obvious the present invention as defined in claims 14-25.

As the Applicants have argued previously, one object of the present invention is to customize natural or artificial gemstones, which are suitable only for industrial purposes, by means of appropriate technologies, so that they can be used in the field of jewelry. Such gemstones normally are not suitable for use in jewelry, because, for example, they are of insufficient size, purity, or color. A large number of these gemstones cannot be processed further into jewelry items, which represents a considerable economic drawback, because the economic value of industrial gemstones naturally is much less then gemstones that are able to be used in jewelry.

However, according to the present invention, a gemstone that is suitable originally only for industrial purposes nevertheless can be made into an appropriate ornamental stone by applying a material layer to a visible structure of the gemstone. The appropriate technical processes are used to provide structure to this material layer, resulting in a graphic pattern through interaction with the visible gemstone surface.

A specialized feature of the ornamental stone produced according to the present invention, that is, its physical appearance, is particularly due to the contrasting effects between the extremely high-quality gemstone background and the material layer applied to the gemstone which, in particular, can consist of precious metal. Although the present invention employs gemstones appropriate only for the industrial sector, stones are naturally of incomparably higher quality than other materials, such as silicon carbide.

In conclusion, the present invention succeeds in processing most gemstones suitable for industrial purposes only and still makes them useable as a part of ornamental stones, thus increasing the economic value of these gemstones to a considerable degree. (For further information relating to the structure and appearance of the gemstone of the present invention, the Applicants respectfully direct the Examiner to the Applicants' website http://www.winterdiamondart.de).

Turning now to the references cited in the final Office Action, the Examiner has based the final rejection on the following erroneous assumption, set forth on page 2 of the final Office Action, fourth line from the bottom:

> *"In addition, Nassau further teaches that silicon carbide is a semiconductor as well as a gemstone (col. 6, ln. 29-36)...".*

The final rejection, therefore, is based on the assumption that Nassau teaches

that silicon carbide is a gemstone. However, this is simply not the case in Nassau. On the contrary, the Nassau reference is consistently devoted to the topic relating to the production of gemstones. According to Nassau, the production of gemstones requires two components:

a) a core of silicon carbide,

b) a thin diamond layer which can be applied to the core of silicon carbide.

Therefore, the gemstone in Nassau is NOT silicon carbide or the silicon carbide core, but the combination of the core of silicon carbide AND the diamond layer. It is only the outer diamond layer that provides the overall object its external impression or appearance that enables it to be classified as a "gemstone".

The Applicants respectfully direct the Examiner's attention to Nassau at column 2, from line 56, where it is disclosed that a gemstone can be produced by first producing a single crystal of silicon carbide, which forms the gemstone core. A diamond coating is then applied to the gemstone core. Silicon carbide, therefore, exclusively forms the core of the later gemstone, but NOT the gemstone itself. The gemstone itself is the combination of the gemstone core AND the diamond coat. As stated in Nassau in column 2, at line 56:

> *"The present invention, in one broad aspect, is the discovery that a gemstone having properties very similar to natural diamond may be produced by first growing a single crystal of silicon carbide, fashioning the silicon carbide into a gemstone core, and thereafter, depositing a coating of diamond on the core, preferably by chemical vapor deposition."*

This principle is disclosed in the entire remaining document, in particular, in claim 1 of the Nassau patent:

"A gemstone comprising a core of silicon carbide having a coating of diamond." (emphasis added)

One skilled in the relevant art, therefore, would not be motivated to combine the Nassau and Reber '329 patents.

Reber '329 discloses a method for producing a piece of jewelry, in which a material layer is applied to a silicon wafer, with diffraction patterns being made from the layer by means of lithography. Reber '329 expressly relates to the production of pieces of jewelry and decorative articles of manufacture (see claims in Reber '329) in the area of diffraction jewelry. Reber '329, however, does NOT relate to the production of gemstones. In contrast, however, Nassau teaches the production of gemstones by providing a crystal of silicon carbide with a diamond layer.

Therefore, the Applicants respectfully disagree that it would be obvious to the practitioner to substitute the silicon wafer in Reber '329 with a gemstone. As described above in detail, the silicon carbide crystal of Nassau is NOT a gemstone. The practitioner skilled in the art intending to replace the silicon wafer with a silicon carbide crystal, as proposed in the Office Action, therefore could not arrive at the present invention. As previously noted, it is precisely the brilliance and high quality of the gemstones (that were suited only for industrial use) which accounts for the attraction of the ornamental stone of the present invention.

In addition, Reber '329 consistently teaches the integration of diffraction patterns, specifically, closely spaced grid lines in the coating. This is also necessary in itself, since the silicon wafer substrate alone does not possess any brilliance or outer impression that would be compatible with high-quality jewelry. The aesthetic quality giving value to the overall impression of the object in Reber '329 is a necessary result of the tendency inherent in diffraction patterns to diffuse incident light into different spectral colors. While Reber '329 may arguably disclose the use of diffraction patterns to apply patterns and images to the silicon wafer as well (see

Fig. 4), the individual patterns themselves also consist of diffraction patterns in order to achieve the aesthetic-technical effect of spectral diffraction.

In contrast, since the present invention utilizes gemstones, the present invention need not provide for diffraction patterns in order to achieve a brilliant overall impression, as the outer impression of the gemstone is sufficient in itself for this purpose. It is also extremely costly to produce different diffraction patterns, since a wide variety of prerequisites must be met for the spectral diffraction of incident light (line width, line spacing, etc.) (see Reber '440, column 4, lines 17-29).

A practitioner of ordinary skill in the art facing the inventor's problem of finding a way to use gemstones that are only useable for industrial purposes in the field of jewelry would find no suggestions in the cited art that would lead him to the present invention. Reber '329 teaches the practitioner how to turn silicon wafers into pieces of jewelry by using complicated and costly diffraction patterns. No mention is made of "gemstones" in the entire Reber '329 patent, and therefore, the practitioner would not even consult Reber '329.

The Nassau patent teaches the practitioner how to produce gemstones. The practitioner, therefore, also would not find Nassau relevant, since he would already be in possession of the gemstones – even if they were limited to industrial purposes – which he would like to process for use in the jewelry sector.

Even if the practitioner did consult these references, as proposed, at best he would replace the silicon wafer material of Reber '329 with silicon carbide of Nassau, which by no means would lead him to the present invention, where gemstones that are useable only for industrial purposes are transformed into high-quality ornamental stones.

It is respectfully submitted that since the prior art does not suggest the desirability of the claimed invention, such art cannot establish a prima facie case of obviousness as clearly set forth in MPEP section 2143.01. Please note also that the modification proposed by the Examiner would change the principle of operation of the prior art, so that also for this reason the references are not sufficient to render the claims prima facie obvious (see the last paragraph of the aforementioned MPEP section 2143.01). The Applicants therefore respectfully request that the final rejections of the claims under 35 U.S.C. 103 be withdrawn.

In view of the foregoing discussion, the Applicant respectfully requests reconsideration of the allowability of claims 14-25. In addition, should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call from him to discuss any outstanding issues, and in particular any further amendments to the claims to bring the application into condition for allowance.

Respectfully submitted,

Robert — Bec

Robert W. Becker, Reg. 26,255
Attorney for Applicant(s)

ROBERT W. BECKER & ASSOCIATES
707 Highway 66 East, Suite B
Tijeras, New Mexico 87059

Telephone: 505 286 3511
Telefax: 505 286 3524

RWB:mac